NEW COMBINATIONS IN THE CACTACEAE SUBFAMILY OPUNTIOIDEAE

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Analysis of various characters of the subfamily Opuntioideae of the Cactaceae (Robinson, in press), has clarified a number of relationships and has provided a basis for meaningful generic concepts intermediate between the extremes of Backeberg (1958) and Rowley (1958). The broad concept of Opuntia which has become traditional is seen to be needlessly ill-defined and uninformative. An absurd conglomerate of subgenera, sections and series has been maintained in an attempt to represent the vaste variation while comparatively minor elements such as Tacinga and Nopalea have been recognized as genera. A reevaluation of the small genus Grusonia has been of most importance. As seen in the 1910 Purpus collection at the U.S. National Herbarium (Britton and Rose, 1919) and as implied by Benson (1969) the so-called ribs are of little significance and the concept is identical with the more recently described Corynopuntia.

It is possible to restrict the genus Opuntia primarily to the pad-forming members of the subfamily "prickly pears" and to recognize a number of very natural and distinctive genera among the species with cylindrical joints "chollas". The North American cylindrical or clavate species can be easily separated into Cylindropuntia having the spines mostly rounded and with the epidermis separating completely in a deciduous papery sheath; and Grusonia with the spines flattened, roughened or bulbous at the base and with little or no distinct sheath. Previous concepts of the genera can be altered to include the following.

Cylindropuntia (Engelmann) F.M.Knuth in Backeberg & F.M.Knuth, Kaktus-A.B.C. 117, 410. 1935. T.: Opuntia imbricata DC. A group of about 40 species including the following addition.

Cylindropuntia wigginsii (L.Benson) H.Robinson, comb. nov. Opuntia wigginsii L.Benson, The Cacti of Arizona, ed. 3. 19. 1969. Arizona, California.

Grusonia F.Reichenbach ex K.Schumann, Monatsschr. Kakteenk. 6: 177. 1896. T.: Grusonia cereiforme F.Reichenbach ex K.Schumann = G. stanlyi. Synonyms: Corynopuntia F.M.Knuth in Backeberg & F.M.Knuth, Kaktus-A.B.C. 114. 1935.; Micropuntia Daston, Amer. Midl. Nat. 36: 661. 1946. A group of 4 species according to the broad species concepts of Benson (1969). The following seem distinct.

Grusonia bulbispina (Engelmann) H.Robinson, comb. nov. Opuntia bulbispina Engelmann, Proc. Amer. Acad. 3: 304. 1856. Mexico.

Grusonia clavata (Engelmann) H.Robinson, comb. nov. Opuntia Opuntia clavata Engelmann non Philippi, in Wislizenus, Mem. Tour N.Mex., 95. 1848. Arizona, New Mexico.

Grusonia grahamii (Engelmann) H.Robinson, comb. nov. Opuntia grahamii Engelmann, Proc. Amer. Acad. 3: 304. 1856. Texas, New Mexico, Mexico.

Grusonia pulchella (Engelmann) H.Robinson, comb. nov. Opuntia pulchella Engelmann, Trans. St. Louis Acad. 2: 201. 1863. Arizona, Nevada, Utah.

Grusonia schottii (Engelmann) H.Robinson, comb. nov. Opuntia schottii Engelmann, Proc. Amer. Acad. 3: 304. 1856. Texas, Mexico.

Grusonia stanlyi (Engelmann) H.Robinson, comb. nov. Opuntia stanlyi Engelmann in Emory, Mil. Reconn. 158. 1848. Arizona, California, New Mexico, Nevada, Mexico.

Grusonia vilis (Rose) H.Robinson, comb. nov. Opuntia vilis Rose, Contr. U. S. Nat. Herb. 12: 293. 1909. Mexico.

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Benson, L. 1969. The Cacti of Arizona. Ed. 3. 1-218.

Britton, N. and J. N. Rose 1919. The Cactaceae. 1: 1-225.

Rowley, G. D. 1958. Reunion of the genus Opuntia Mill. Natl. Cact. and Succ. Jour. 13: 3-6.